

VOLUME CIX

NUMBER FIVE

# THE NATIONAL GEOGRAPHIC MAGAZINE

MAY, 1956

Many-splendored Glacierland

589

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40 in Natural Colors

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PUBLISHED BY THE  
NATIONAL GEOGRAPHIC SOCIETY  
WASHINGTON, D. C.

\$7.00 A YEAR

75¢ THE COPY

## A Good Samaritan Code Unites the Nation's Flying Volunteers, Who Often Risk Death that Others May Live

By ALLAN C. FISHER, JR.

National Geographic Magazine Staff

*With Illustrations by National Geographic Photographer John E. Fletcher*

NEVER before had the two civilian flyers experienced silence so complete or so ominous. Hurriedly they scanned the wintry Arizona desert as their light aircraft glided down, its engine as dead as the bleak, rock-strewn floor.

But the desert can be grudgingly hospitable to a small plane in trouble. The pilot flattened his glide and bounced to a stop in the sand of a long-dry lake bed.

Ruefully the two men calculated their chances of survival. Should they hike to civilization? No, it was much too far; besides the weather had turned bitterly cold. They decided to stay with the plane. Surely someone would miss them and send help.

So the long vigil began. Day waned, and they felt the first pangs of hunger. Night came, and they huddled in the cockpit. By dawn both were numb with chill and weariness, and a furtive little worm of doubt began gnawing at their confidence.

### A Sound in the Sky Heralds Rescue

The sun had climbed an hour high when they heard the drone of an engine, sweet as angel music. A small silver plane circled overhead like an anxious mother bird, then landed. Soon the downed flyers had been flown back to warmth, safety, and reunion with loved ones.

For the rescue pilot, Earle Comer of Tucson, this incident was routine. He belonged to the Civil Air Patrol, a nationwide organization of unpaid minutemen, volunteers and civilians all, who fly hundreds of similar missions each year in their own aircraft. Incidentally, though an active pilot, Mr. Comer was 63 years old and had lost a leg in a flying accident during service in World War I.

CAP's 90,000 men, women, and teen-age cadets serve the Nation as an official auxiliary of the United States Air Force. They wear the Air Force uniform with special insignia, but bear no arms, for their mission is mercy.

Members come from all walks of life, all races, many faiths. But a remarkable dedica-

tion unites them. When word comes that a plane is overdue, a prospector lost in the desert, a ranch family marooned by a blizzard, then adult volunteers thrust their regular jobs aside and dash off to save a life, often at the risk of their own.

No matter what their occupation—clerk, mechanic, housewife—members respond like minutemen of old. They never know how long a rescue mission may last, and many sacrifice pay by dropping everything to help others.

### Mercy Missions Unlimited

Last year CAP's 59,500 senior members participated in more than 150 searches and logged more than 12,500 flying hours in support of the Air Rescue Service, a branch of the Air Force. Many of CAP's 50,500 boy and girl cadets backed up the seniors with ground support.

Usually these Air Force-directed hunts seek some luckless overdue plane.

But your neighbors and mine, not just the occupants of lost planes, can stumble into danger—and with dismaying frequency. When that happens, local authorities or distraught relatives often flash an SOS to one of CAP's 1,417 senior squadrons.

The helping hand is always ready. If light aircraft or ground-rescue teams can do the job, volunteers will rush to the aid of anyone, any time, anywhere in the United States, its Territories, and Puerto Rico. CAP calls such assignments "mercy missions" to distinguish them from Air Force "search-and-rescue."

The person in danger may be a child lost in the California wilderness, an elderly prospector trapped by snow on an Alaskan mountain ledge, a woman marooned by rising flood waters in Pennsylvania, or a Navajo Indian, desperately ill, who must be rushed from the Arizona desert to a hospital.

These are not imagined incidents. They occurred in 1955, and patrol members saved all the victims.

The organization's national headquarters







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## ★ Civil Air Patrol to the Rescuer Air Search Ends

Page 638: CAP, dating from World War II, serves as an official U.S. Air Force volunteer auxiliary with the primary objective task of finding lost aircraft. Last week the USAF Air Rescue Service ordered CAP shut out more than 100 search and rescue missions. It took two hours for this banking plane to find two Air Force sergeants near the top of Mount Hamilton, California. Bright fabric patches and aluminum foil simulate a downed plane.

Above: Most equidistant major air ground-rescue crews. A radio-equipped team from the Warner (Chicago) Jeep Squadron of Reno simulates a mission in the Nevada hills.

## Chicago Cadets Put ★ CAP on the Air

These youngsters learn to handle a radio transmitter.

By Kenneth Goodson, Editor

Illustration (opposite) by  
John P. Miller, Jr. (National  
Geographic)



in Washington, D. C., cannot compile statistics on such missions, since many are never reported. It's just part of their job, say the volunteers. Yet headquarters estimates there may be 10 times as many mercy missions as there are Air Force-directed searches. This would mean more than 1,500 each year!

Recently CAP took me on a six-week tour through its grass roots empire. I flew with members, attended their meetings, witnessed their often arduous training. Such experiences leave even skeptics with a deep admiration for the volunteers and their program.

That program, of course, includes CAP's good Samaritan pursuits: search-and-rescue and mercy missions. But, above all, it emphasizes aviation education for American youth. Additionally, it provides nationwide support of Civil Defense.

### Ground and Air Teams Work Together

Let's see how these aerial lifeguards handle their most dramatic job: search-and-rescue, the task that binds them to the Air Force and makes other mercy work possible.

The two private flyers who landed safely in Arizona were lucky. CAP usually finds wreckage, and often the occupants are dead. But sometimes there are injured who must be located quickly, then whisked to safety in a race against time and the elements.

How is it done? Brief accounts of three 1955 rescues will show you. Each illustrates a particular phase of minutemen teamwork: aerial search, ground rescue, and radio communication.

In midwinter a private plane with two men aboard vanished on a flight from Orville, California, to Reno, Nevada. The Air Force suspected it was down in California's Sierra Nevada and ordered 50 aircraft into the search. Each was given a specific area.

No one found a trace the first day. New areas were repeatedly assigned. On the second day the pilot of a private plane discovered the downed aircraft, apparently intact, in a mountain gully. Both men were alive and only slightly injured. CAP pilots dropped supplies, then radioed for "big brother"—an SA-16 amphibian of the Air Rescue Service. Big brother summoned a helicopter, and it bore the men to safety.

CAP would have searched for these flyers if they had crashed anywhere in the country. Its helping hand extends, through 52 "wings," into each of the 48 States, the District of

Columbia, Alaska, Hawaii, and Puerto Rico.

The CAP flyers in this search were among 13,500 rated pilots available for duty at any time. Many once flew for the armed services; others never touched the controls of anything hotter than the puddle jumpers in CAP's armada of some 5,300 light planes.

Let's return to another crash site in the western mountains, this time in Nevada.

An instructor and student were forced down on a flight from San José, California, to Reno. An Air Rescue plane found the wreckage just before dark. The pilot saw two survivors, but did not know the extent of their injuries, and it was too late for a helicopter pickup or a jump by Air Force pararescue experts. So he radioed the location to a Civil Air Patrol ground-rescue team.

Members pushed up into the mountains as far as they could by jeep, then broke out their flashlights and slogged the rest of the way afoot. Late at night they reached the men and carried them out. Luckily, neither was seriously injured.

This incident illustrates another service of the volunteers: no matter where they go down, flyers can count on CAP for ground rescue as well as search. Members form hundreds of rescue teams in support of their aerial bird dogs. Team personnel receive intensive training in first aid and wilderness survival. With their own funds they buy jeeps, trucks, horses, snowmobiles, dog sleds, swamp buggies—anything that will speed them to crash sites.

### Jet Pilot Bails Out into Swamp

The third incident occurred in northwest Florida. An Air Force Sabrejet, flying at 30,000 feet, suddenly lost its tail in a violent explosion. The pilot parachuted into a swamp. Though injured, he managed to pull himself onto a hummock of dry land.

Air Force and CAP planes searched for hours, but poor radio contact hampered communications, threatening the mission's success. Then a CAP housewife, 1st Lt. Miriam Tonkin of Dade City, Florida, came on the air with her radio set. She could hear the pilots and they could hear her, so Miriam relayed messages and coordinated the search.

Finally a plane found the injured pilot. Two Air Rescue Service sergeants parachuted into the swamp and gave emergency first aid, and a helicopter rescued all three.

CAP has many communication specialists like Miriam Tonkin, and its radio network of



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### Flying Frogmen Save a Drunked Pilot

Equipped with Aquanings and crash hoods, a Nassau County (New York) unit of the CAP specializes in aid to airmen forced down in Long Island Sound. Here members rescue a "victim," whom they have towed in from deep water. An old aircraft wing helped plane find the rescue scene.

### Famed "Toney" Spantz → Flies a Spad Again

Gen. Carl Spantz, USAF (Ret.), is chairman of CAP's National Executive Board. He commanded the U. S. Strategic Air Forces in Europe and served as first Chief of Staff of the separate Air Force.

Here at CAP's Washington, D. C., headquarters, General Spantz shows Maj. Gen. Walter R. Ager, the patrol's national commander, how he maneuvered his Spad against German aircraft in World War I. One of the best cadets holds an official CAP plane model, which groups build from standard kits.

—National Geographic Society

Illustration by Robert D. Smith  
Photograph by Robert D. Smith  
Model by Smith





## A Cadet Heads → for the Blue Yonder

Every CAP teen-ager gets his half-hour orientation flights as part of his squadron-level training. He does not like the controls, but his pilot, a CAP member, explains everything that occurs. This youth waves from an Air Force L-16 at Salt Lake City Municipal Airport, Utah.

—LARRY J. BROWN

## ✦ Planes Gather for a Search

Gas trucks refuel CAP aircraft beside a Stockton Municipal Airport runway as northern California units take part in a periodic search-and-rescue mission.

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11,047 stations is one of the largest in the world. More than half the stations are mobile, either airborne or in vehicles.

Brig. Gen. Thomas J. DuBose, commander of the Air Rescue Service, often calls the patrol his "good right arm" and cites generous proof: In U. S. territory, CAP members log more flying hours in official searches than ARS and all other participants combined.

"These men and women give of their time, and many of them risk their lives, with no thought of personal gain," says the general. "The only monetary compensation they ever receive is for the gas and oil used on search missions directed by ARS.

"There is no way of computing in dollars and cents the value of their voluntary efforts. However, this much is certain: without their assistance it would be impossible for my command to provide the same degree of emergency search-and-rescue coverage to our other areas of responsibility throughout the world. bluntly, what it amounts to is this: the American taxpayer is getting better and wider rescue coverage for every tax dollar because of the efforts of Civil Air Patrol."

Perhaps you have looked down upon desolate terrain from an aircraft and wondered, "If we crashed in this wilderness, how would they ever find us?"

Actually, the first step in finding you began before you boarded the airplane.

Prior to each flight all pilots in the United States are expected to fill out forms giving their route, destination, and estimated time of



## Utah Aviation Students Intently Await the Flight of a Model Plane

CAP takes its own cadets short on orientation flights and gives ground-school training at squadron meetings. By self-imposed rule, however, it leaves actual flight training to the flying schools. To high schools and junior colleges it provides materials and lectures for aviation education. It participated in 31 local and regional workshops for classroom teachers in 1955; 828 men and women enrolled.

Air-minded Utah alone has 14 high schools offering aviation courses, all using the CAP study manual. Most students enrolled for such training belong to CAP.

Mount Olympus (10,241 feet) looms over this scene at Olympus Senior High School outside Salt Lake City. The Aerona L-16 stands ready to familiarize cadets with a plane's controls. CAP has more than 300 obsolete light planes donated by the Air Force.

A senior member of CAP, the instructor holds a model powered by a gasoline motor. Later he flies it for these students, all members of CAP and classmates in a high school aviation course. Older in blue shirts cadets in CAP's Utah Wing.

Football players scrimmage in the background.

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## Flight to Nowhere: A Cadet Logs Time in a Link Trainer

Thousands of pilots first get the feel of aircraft controls in the Link trainer, which never leaves the ground but banks and spins like an airplane plane. Its instruments are real. With its cockpit cover closed, the trainer duplicates instrument flying conditions.

Through his microphones and headset the student communicates with the instructor in an Olympus Senior High School aviation class.

➔Page 645: Olympus students learn how a wing lifts a plane on currents of air. "Barbidge" (indicated by calligraph) occurs when the ship climbs too steeply for its speed; it results in decreased lift.



arrival. Airport Civil Aeronautics Administration representatives or military air controllers file these flight-plan forms and pass the information along their communication networks to points of destination.

If an aircraft is one hour overdue, officials notify the nearest squadron of the Air Rescue Service—and that's where CAP comes in.

The Air Force immediately alerts its junior partner, then queries all airports along the missing plane's route. If they cannot report that the plane made a safe, unscheduled landing, it is presumed lost, and some CAP wing orders its minuterone aloft.

Private pilots are not compelled to file flight plans. Some, neglecting this safeguard, have died as a result. No one reported them missing for many hours; searchers wasted days combing areas far from the wreckage. Help finally came, but too late.

Given clues from a flight plan, mercy flyers usually discover wreckage within a day or two, and sometimes sooner, but nevertheless planes have vanished in many instances.

#### Author Views Air Disaster Scene

On the morning of October 6, 1955, a DC-4, bound from Denver to Salt Lake City, hit Medicine Bow Peak in Wyoming. All 60 persons aboard were killed.

That same morning John E. Fletcher, National Geographic photographer, strolled off an airliner with me at Denver. We had anticipated only a brief visit with the Colorado Wing; instead, we walked right into the search.

Lt. Col. Ben S. Jordan, deputy wing commander, met us with the news and an invitation to join the hunt.

"We volunteers know this country well," he said. "My guess is the plane is down either on Medicine Bow Peak or Elk Mountain, both northwest of here in Wyoming. We got word only 10 minutes ago it was missing."

Colonel Jordan rushed us to CAP's wing headquarters at Lowry Air Force Base. Half a dozen people manned a few desks and telephones, but no one seemed very busy. Two men in flight coveralls quietly discussed a chart. A secretary shuffled some forms and clipped them together. An Air Force sergeant spoke briefly to the colonel, then left.

This was not the scene of ruffling people, barked orders, and jangling telephones that I had expected. As if reading my mind, Colonel Jordan commented.

"Things are under control. We have four

aircraft out, and I've just assigned a fifth. You and Jack Fletcher are next."

Soon Jack left with the pilot of a single-engine plane, and the colonel turned me over to Maj. Walter H. Lamb, an Air Force officer on liaison duty with the volunteers. He picked up three other passengers at the flight line, and within 15 minutes we were winging toward the Rockies in a small twin-engine C-45.

The day seemed too flawlessly bright and clear for tragedy. From the copilot's seat I could not see a single cloud marring the blue. Off our left wing the snow-capped peaks sparkled benignly, a matchless panorama of nature in peaceful mood.

Suddenly a static-blurred voice crackled in our radio headsets. Lamb listened intently.

"Did you get that?" he asked me. "It confirms that wreckage has been sighted on Medicine Bow Peak. The search has been called off, but we'll go on and take a look."

As we quartered in toward the Rockies, flying above scarred foothills, the snowy mountains no longer looked so peaceful. The air became so lumpy that without seat belts we would have been thrown against the controls.

Finally we saw Medicine Bow Peak itself, a long, reedlike barrier 12,005 feet high at its topmost jagged prominence. Half a dozen aircraft circled it like flies as we approached.

Wreckage? We could see none. The steep cliff seemed clear, the white slopes unmarred. For half an hour we circled repeatedly as the plane bucked through gusts and downdrafts. Had there really been a crash?

#### CAP Rushes Aid to Medicine Bow

Then Lamb cried, "Look! Directly below! See those moving figures? That's the ground party. Now follow their direction of climb. See the wreckage above them?"

Soon all of us could see fragments dark against the snow. Vertical streaks, marking the point of impact, began near the mountaintop and cascaded down a cliff. With another 50 feet of altitude the airliner would have cleared Medicine Bow.

When we landed at Lowry, Jordan told me that a Wyoming Air National Guard jet pilot scored the find shortly before noon. The plane was definitely reported missing at 9:45 a.m., about three hours after take-off. Weather was thought to be good, and the reason for the crash was not known.

Though CAP did not find the wreckage, it was among the first to reach the scene aloft,





### A Sidewalk Photographer Snaps CAP Exchange Cadets in Habana

Youth from 71 nations visited the United States last year, and CAP units went abroad, in a program to foster friendship through aviation. (page 643) These young Americans and escorts pose before Cuba's Capitol.

The antlike figures I glimpsed included 17 members of the Wyoming Wing. They camped beneath the peak for several days, assisting in the removal of bodies.

Volunteers often perform this grim task. Survival in wilderness crashes is more the exception than the rule. Yet, as we have seen, CAP saves some downed flyers each year.

Patrol members found 38 persons on Air Rescue missions in 1955, but the records do not state how many of these were flyers. Similarly, no one adds up wrecks found by the

volunteers. It is enough, apparently, that the job gets done, and there is no desire on anyone's part for a lion's share of the credit.

A like reticence governs CAP's mercy missions. Not so reticent are the rescued themselves, who often pen fervent, unsolicited testimonials to squadrons:

"I am forever grateful," wrote a Florida fisherman rescued from a swamp.

"Just 'thank you' seems so little for the gratitude we feel," said the parents of a Nevada child saved from the desert.



"I had about given up hope," scrawled an old prospector lost in rugged Utah.

Despite such solid evidence of good works, I know of only one locale where members actually compiled a list of persons rescued.

In 1951 CAP organized a squadron among Arizona's Navajo Indians and set up a number of radio stations in the 24,000-square-mile reservation. "The wind that speaks" fascinated red men young and old. They saw in it a means of summoning quick help to isolated villages and hogans. Enthusiastically they pitched in and helped build a few landing strips suitable for light planes.

### Radio Saves Lives in Navajo Land

The work soon paid off. Radio repeatedly summoned planes of the Arizona Wing to rush ill or injured persons to hospitals. Within nine months of the Indian squadron's activation, officials listed 14 lives saved. No one has compiled a total since then.

Today there are 32 landing strips on the Navajo Reservation, most of them built by the United States Bureau of Indian Affairs. Instead of one squadron, there are three with 130 enthusiastic Indian volunteers. They have no aircraft of their own, but all study up on their CAP aviation manuals.

Hundreds of volunteers labored round the clock during the 1955 flood disasters. In some places their radio transmitters provided the only links with the outside world.

Stroudsburg and East Stroudsburg, Pennsylvania, made national headlines last August when rains from Hurricane Diane inundated resorts in the Pocono Mountains. But few of these stories related the heroic work of

Stroudsburg's able Civil Air Patrol squadron.

The flood struck at night. Broadhead Creek, separating the two communities by 100 yards, swelled into a raging torrent. At the height of the storm, Warrant Officer Philip Hardaker packed a portable radio on his back and crawled across a trembling railroad trestle, luckily reaching East Stroudsburg before the bridge collapsed.

For the next 24 hours that small radio was East Stroudsburg's only voice.

Meanwhile, in Stroudsburg, Capt. William A. Bechtel jumped into the squadron truck and evacuated dozens of people from threatened homes. Providentially, CAP had cached emergency food and medicine in the area, and the next day he dispatched squadron planes for these supplies.

Armed services helicopters began arriving. Bechtel set up a heliport in a schoolyard and assigned CAP members to fly as observers. They pinpointed marooned families for pilots who made pickups and dropped supplies.

Other volunteers relieved Bechtel and his men after they had been on their feet more than 48 hours. Many were nearly incoherent with fatigue; some of these workers had lost their own homes.

So many bodies were found that CAP used refrigerator trucks as temporary morgues. More than 80 persons lost their lives in the Stroudsburg area.

### State Governors Commend CAP

Hurricanes Connie and Diane dumped floodwaters on vast areas of Pennsylvania and Connecticut. Recently the governors of those two States summed up for the NATIONAL GEOGRAPHIC MAGAZINE their impressions of the patrol's rescue activities.

"Wherever I went, I found Col. Phillip F. Neuweiler's State Civil Air Patrol wing on the spot," wrote Governor George M. Leader of Pennsylvania. "Reports reaching me later backed up my own impression."

"The CAP had not only done outstanding rescue work at the height of the flood, but the wing had pitched in magnificently on the staggering job of rehabilitation."

Governor Abraham Ribicoff of Connecticut said:

"Town officials throughout the State have praised CAP's assistance in furnishing generating equipment, in sending and receiving urgent messages through its statewide radio network, in supplying field telephones in the

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### Cadets Tour an Aircraft Plant Near Hagerstown, Maryland

To interest youths in aviation careers, Fairchild Engine and Airplane Corporation sponsored the Fairchild-Hagerstown CAP Squadron. Fairchild gave land and materials for a \$1,000 headquarters building; patrol members provided the labor. Now the corporation welcomes cadets on tours of its plant and rewards promising ones with scholarships to flight school.

Here supervisor Harold Custer tells students how oil-filled pitch regulators (on floor) will be installed on hubs of the four-bladed propellers (on rack) that drive the Air Force's C-47s, the Fairchild Flying Boxcar. Not unlike the automatic transmission in an automobile, the regulator hydraulically changes the blades' pitch to meet the varying demands of take-off, cruising, and landing.

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### Maj. Sally Strempel, CAP's Living Legend, Gives a Ground-school Lesson to a Cadet

Only a few women serve as regional flight examiners for the Civil Aeronautics Administration. One of them is Maj. Strempel, a grandmother with 10,000 hours' flying time. Operator of Sally's Flying School at Pal-Waukee Airport, Wheeling, Illinois, she has instructed 2,000 pilots. Her husband, also a CAP major, flies overhead.

➔ Page 651, lower: CAP girl cadets (in oxygen caps) visit Eastern Air Lines' school for stewardesses at Miami Springs, Florida. Girls inflate life jackets by mouth, carbon-dioxide cartridges do the job normally.

Upper: Trainers wear life jackets like those they would issue to passengers on a plane ditched at sea.



disaster areas, and in flying 6,000 pounds of badly needed food and medicine into the stricken communities.

"In addition, CAP flew observation missions and reported to State Civil Defense headquarters on conditions that existed in the flooded areas."

It was a watery year, 1955, and minutemen mobilized for flood duty in several other States. The North Carolina Wing set up about 300 mobile radio stations to handle disaster messages. California mustered 300 men and 30 aircraft for five days of emergency duty at Christmas time (opposite).

### California Outflies Other States

The effectiveness of this citizen militia in mercy work is due primarily to intensive search-and-rescue training, much of it supervised by the Air Force. On their own responsibility squadrons continually participate in local simulated missions. In addition, each wing stages a highly realistic combined exercise once a year under Air Force auspices, such as one I witnessed in California.

Californians own 6,311 active civil aircraft, the largest registration of any State. This figure helps explain why the patrol's California Wing is both the biggest in the Nation and the busiest in number of air searches. Its 6,700 members, who own 500 planes, flew 32 Air Force-approved search-and-rescue missions in 1955, more than any other State.

California holds two big training missions each year, one for the northern part of the State and another for the southern. Members call these practice alerts SARCAPs (Search-and-Rescue, Civil Air Patrol).

Fletcher and I flew into Stockton Airport one Saturday morning for the northern SARCAP. We watched in amazement as gaily painted private planes converged on the scene like bees at a nectar party. By midmorning more than 650 volunteers and 80 aircraft had reported (page 642).

Some groups set up headquarters in hangars. Others moved into buildings once used by an Air National Guard outfit. Officials quickly organized a command and message center.

Air Rescue Service gave them a staggering problem. One of our own planes, said ARS, is "missing." It took off on a training flight around northern California and hasn't been heard from since. This means it could be down anywhere in a 25,000-square-mile area.

Anticipating a search covering a big part of the State, headquarters had established advance bases at Salinas, Santa Rosa, and Fresno. Orders sped out dividing the area into nine sections, each assigned to a group of squadrons.

So that everyone would get a good workout, ARS men placed distress panel markers on the ground in all sections. Pilots had to find them and guide ground parties to the scene. Meanwhile, other ARS personnel kept telephoning clues—some of them false—to headquarters: a farmer had heard a low-flying aircraft...a sheriff reported rumors of a crash in his county...

By day's end all the markers had been found. Then ARS announced that on Sunday they would stake out the major target, prime object of the entire operation, and it could be anywhere.

Day began with chapel, but I begged leave. ARS had confided its secret to me, and at 4 a.m. Air Force Master Sergeants Stephen Holloway and V. L. Linford routed me out of bed to help place the target.

We drove 90 miles, mostly over serpentine mountain roads, until we reached a meadow near the top of 4,430-foot Mount Hamilton in the Diablo Range east of San Jose. There we laid out a fabric panel topped by bright strips of aluminum foil and settled down to enact our role of survivors. The time, 7 a.m.

### Mirror Flashes, "Here We Are!"

The view alone was worth the trip. Bluish, hazy ridges extended as far as the eye could see, and deer grazed in a vale below us.

Even a hawk would have envied Linford's eyes. At 7:55 he spotted an aircraft, a minute speck against a faraway ridge, and Holloway repeatedly flashed his distress signal mirror. Without changing direction the little plane faded from view.

We saw several other planes during the next half hour, but all were far away. At 8:55 Linford aimed the mirror at a ridge-jumping plane some 30 miles north of us. Surprisingly, it banked around almost immediately, flew toward us, passed directly overhead, and disappeared (page 658).

"He couldn't have missed us," said Linford. He was right. Soon half a dozen little planes were buzzing overhead. They dived repeatedly in an attempt to read identifying numerals painted on the aluminum foil.



Here, I mused, was the minuteman code in action. These flyers were civilians with families. Some had acquired comfortable pouches and many responsibilities. A number would never see 45 again. Yet still they flew these tricky mountain down-drafts, knowing engine failure might mean death. Since 1948, 18 volunteer pilots and flight observers have been killed on search-and-rescue missions.

Search and rescue work is relatively incidental in CAP's program for its 50,500 cadets, among them nearly 10,000 girls. Senior members enroll these teen-agers (15 and up) for aviation training based on half a dozen tests compiled and written at national headquarters. Each boy and girl gets a minimum of 100 to 150 hours of instruction over a two-year period.

Later the cadets take stiff written examinations. If they pass, they win certificates of proficiency signed by Gen. Nathan F. Twining, Air Force Chief of Staff, and Maj. Gen. Walter R. Agee, CAP national commander. Certificate holders may enlist in the Air Force as airman third class, and they generally receive special consideration for entrance to Air Force ROTC and Aviation Cadets.

Classroom work and examinations comprise only part of the instruction; the rest is much more exciting. Cadets with parents' permission, go upon orientation flights (page 642). Seniors do not give them pilot training, but



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Photo: Brown

### Rescue Basket Raises Mother and Daughter to Safety

Its rotor blades hampered by torrential rains, one CAP group used nets and a boat for mercy missions during California's disastrous floods last December. The boat spotted this marooned family at Guerneville and rallied for help. Within minutes, the Air Force helicopter was hovering overhead.



scores of honor cadets win CAP scholarships to local flying schools.

In 1955 some 9,000 cadets, including nearly 2,000 girls, participated in nine-day encampments at Air Force bases (page 658).

CAP sent 145 outstanding boy cadets abroad in 1955 to 21 nations, and these countries sent a like number of their own youngsters here. The purpose: international good will and the furtherance of aviation education.

Boys from the United States were divided into teams, each of which spent a month in another country, often as guests of an aero club. Lads from foreign lands visited CAP wings and lived with member families.

And the girl cadets? Those from the continental United States conducted an exchange with their counterparts in Alaska, Hawaii, and Puerto Rico.

#### Canadian Cadets Win Drill

At present only the United States and Canada participate in the International Drill Competition. Local, regional and national contests determine the best individuals to compete against a crack military drill unit

representing the Air Cadet League of Canada.

The 1955 contest took place on a wet, wind-swept airfield at Toronto. Looking on, I could detect no difference in the precise lines, the intricate maneuvers. Judges passed up and down the ranks, scribbling notes. They announced their decision that night at the Canadian National Exhibition in downtown Toronto, where cadets demonstrated drill routines before a vast grandstand throng. The winner: Canada, by a few points.

Youngsters from both teams were seated on the sidelines. They were in semidarkness, and most of the crowd missed what happened next. The American boys immediately walked over to the Canadian cadets and smilingly shook the hand of each.

This incident helps explain why CAP can say that, so far as its national headquarters can determine, not a single cadet has ever been brought before a juvenile court.

J. Edgar Hoover, Director of the Federal Bureau of Investigation, has long been an admirer of the cadet program. When I asked his opinion of it he wrote me:

"Certainly the work of the Civil Air Patrol through the teaching of aeronautical subjects



and the inculcation of military discipline and courtesy, is one very effective means of reducing the opportunity for juvenile delinquency. Discipline and respect for law and order are intangibles that develop when the young personality is directed into absorbing and constructive pursuits.

"I believe that the cadet program of the Civil Air Patrol is a unique contribution in the fight against juvenile delinquency, as well as added insurance that we will have eager young explorers probing the unknown airways of tomorrow."

Air Force ranks include more than 30,000 former cadets. Senior members express satisfaction in the fact, but point out that their

#### ✦ French Planes at Chambéry Wait to Bear U. S. Exchange Cadets Into Alpine Skies

Rugged Stompe SV-4 biplanes, known in Europe for acrobatic ability, are standard trainers for French flying clubs.

Don't the Nivodan, the peak in background, rises 5,095 feet.

*E. E. McFerson, Chicago*

#### ✦ Unusual Civil Defense Airstrip Hurdles an Atom "Casualty"

Evanson and Skokie, Illinois, jointly maintain Radio airstrip in case Chicago is bombed. Only CAP and moose planes may land on the field, a grassy strip between a busy boulevard and a canal.

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purpose is to interest both boys and girls in *any* phase of aviation as a career. The aircraft industry, surpassed in the Nation only by the automobile industry in number of employees, badly needs trained personnel.

"I joined CAP primarily because of the kids," many members told me. Some dig into their own pockets to buy shoes and uniforms for cadets. Others devote nearly all their spare time to the youth program.

Ted Limmer and Bob Faulkner of the Palmdale, California, squadron, test-fly jet aircraft for Lockheed. Though often tired after getting their fives on untried planes, they spend nights and week ends training Palmdale cadets.

"If our work helps put just one boy into the new Air Force Academy, it will be more than worth it," Limmer told me.

Harold B. Kinison, an Eastern Air Lines pilot, spent his 1955 vacation working with cadets at their Mitchel Air Force Base encampment. Later he rewarded one of his prize pupils, 17-year-old Bruce Ben of Plainville, Connecticut, with a ride in the cockpit of his airliner on a scheduled run. I accompanied the boy and was amazed at his penetrating questions about radio, navigation, and instrument readings. Yes, Bruce said, he's "hooked" for aviation; he wants to be an Air Force pilot first, then go into aeronautical engineering.

### Civilians Take Command

CAP supports its youth work and other activities with relatively little government financial help. Members buy their own uniforms. Adults pay \$3 national dues each year, a total of about \$120,000, and varying amounts to wings and squadrons.

Fifteen States vote some funds to their wings. The Air Force cannot contribute money, but it does give solid support through professional leadership, office space at air bases, and matériel, including some 500 obsolete light aircraft recently donated to the volunteers.

General Agee and the headquarters staff are Air Force personnel. Except for this top-level group, civilians command all units. They can turn to Air Force field liaison officers for advice and help.

The law entitles CAP to obsolescent armed forces equipment, such as radios and generators, provided no Federal agency wants the surplus matériel. But other civilian organizations share an equal priority on most items,

### Straining Cadet Fights the Tug of an Air Force Parachute

Page 657: Nearly 9,000 CAP cadets last year attended annual encampments at Air Force bases, flying like regular airmen and taking intensive ground-school courses.

This cadet, whose training does not include jumping, learns that the hauled-out airman must immediately get out of harness or collapse the chute, else the wind will bowl him over. Man at right is an Air Force weapons instructor; practice takes place at Mitchel Air Force Base, Long Island.

Lower: Youths tackle a classroom problem in aerial navigation. Two lads hold an oversize demonstration model of the E-6-B computer, the flyers' handy gadget that quickly figures such problems as rate of fuel consumption, drift, and true speed.

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so the pickings often are slim. Many squadrons and individuals buy their own equipment.

General Agee wants to increase cadet enrollment to 100,000 and expand the aviation education program, but he says the Air Force and its minutemen can't do the job alone.

"It will take outside funds," he told me. "We need scholarships for selected high-school graduates to continue their aviation education in college."

Maj. Gen. Lucas V. Bean, who retired as national commander at the end of 1955, agrees emphatically with his successor. General Bean commanded the volunteers for eight years and organized the present program. He, more than any other individual, is responsible for CAP's vitality and growth.

It has been proposed that prominent citizens undertake an industrial fund-raising drive for the cadet program, but a decision has not been reached. No one suggests outside support for the adults. They can fend for themselves, a proud tradition that goes back to World War II.

Private flying enthusiasts founded CAP six days before Pearl Harbor. By war's end the volunteers had flown more than 24,000,000 miles on antisubmarine patrol in their own single-engine planes. They set up an aerial courier service for defense plants, flew tracking missions for antiaircraft and searchlight crews, patrolled the Mexican border on the lookout for spies, and performed a dozen other dangerous and often thankless tasks.

Then, as now, members served without pay, and 56 gave their lives.

At first CAP was attached to the Office of Civilian Defense; later the Army Air Forces

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### Jet Plane's Wing Makes a Lecture Platform for a Cadet Class at Mitchell Field

Eighty-three CAP youngsters last summer attended an encampment at Mitchell. Eighteen gather around 106's T-33 trainer. An obsolescent B-25 Mitchell, propeller-driven bomber of World War II, rests on the concrete apron.





### Instructor Demonstrates a Model Gyroscope. Two Pilots Stand By for Questions

Jet flyers in crash helmets, oxygen masks, communications gear, and parachutes look like men from another world. Model gyroscope serves to explain smaller counterparts used in instruments like compass and artificial horizon.

# Florida Unit Patrols → the Beach at Evening in Plane and Sand Buggy

Every day the Naples CAP sends its Sundown Patrol along the southwestern Florida coast. Boatmen, happy to see the buzzing plane, wave it off if all is well. But when there is trouble, the plane radios surface rescue teams, and away go the boats and sand buggies.

"Ramblin'" Leo McCormick installed airplane tires on his jeep for better traction in sand.

## ★ CAP's Yellow X Says: "Ignore This Old Wreck"

The Air Force wants known crashes marked so that passing aircraft will not keep reporting them as fresh ones. CAP helps in this job.

In the Everglades the Florida CAP uses air boats (opposite lower). These vehicles can do 50 miles an hour over a few inches of grass-covered water.

This Miami team marks the remains of a Marine Corps jet west of Fort Lauderdale.

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## CAP Planes Searc Chicago's Lake Front Following an "Air Raid"

Civil Air Patrol in some States serves as the official flying arm of Civil Defense groups.

The author found the Illinois Wing preparing for action in case of an atomic attack, its members busily practicing their roles. One of their most important jobs will be the monitoring of ground radiation. CAP planes equipped with special instruments would fly low, measuring the intensity and extent of contamination.

The wing believes there to five such reconnaissance teams, each with five airplanes, five pilots, five observers, and 10 ground crewmen, could trace a "hot cloud" radiating at Chicago. These light aircraft simulate such an emergency. Besides radiation monitoring, they practice reporting on bomb damage and traffic jams. Armed with such information, headquarters could divert traffic from dangerous or congested areas.



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## ◀ "Chicago Bombed!" Says This Evacuation Map

Glit radar holds messages from planes aloft on a practice mission. CAP officer posts the reports on map at Civil Defense headquarters. Red arrows trace the imagined movements of emergency-aid convoys; black ones show the flow of refugees. Blue arrows indicate the cloud's drift to the southwest.

## "Hot" Plane Gets → a Cooling Wash

Page 163: Aircraft monitoring ground radiation would try to avoid the wind-driven fallout from an atomic cloud, but they might fly into the drifting, invisible particles accidentally.

These CAP members at Pal-Waukee Airport practice decontamination by hosing down a Stinson Reliant. Another man checks a chip with a Geiger counter.

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### Air Force Academy Cadets, Recent Members of CAP, Inspect a Marauder Guided Missile

Former CAP men make up a tenth of the new Air Force Academy's student body. Lowry Air Force Base, Denver, Colorado, houses the school while permanent quarters rise at Colorado Springs. Missile decorates the temporary campus. These students in Air Force blue guide a visiting CAP unit.



supervised its work. After a period of post-war doldrums, Congress approved in 1948 a bill giving the organization official auxiliary status with the Air Force.

In the event of atomic war, a host of new tasks may confront CAP volunteers.

If an enemy did unleash the atom on our cities, CAP would support Civil Defense with aerial damage surveys, radio communication, evacuation of injured, and airlift of food and medical supplies.

Recently volunteers also began training for a highly specialized and difficult assignment: radiation monitoring. Civil Defense officials have stressed repeatedly the danger of fallout from minute radioactive dust and bomb particles. Drifting with the wind, this lethal shower might well contaminate large areas.

### CAP Teams with Civil Defense

How CAP could best be used following an atom burst is still being worked out. Some areas are staging exercises which can be adapted to any of several roles. In Operation Cue, a Civil Defense maneuver held during the 1955 series of Nevada bomb tests, volunteers of the Nevada Wing flew low over the area after the fallout, measuring ground radioactivity. The Tennessee Wing has also demonstrated CAP's potential by finding radioactive materials from Oak Ridge planted in the countryside for a test search.

With these precedents in mind, several wings are forming air teams for fallout detective duty, and additional States have programs in an earlier stage. In Illinois they are planning to map the radioactive fallout after it settles.

Weather forecasters can predict the fallout pattern in general, but officials believe air reconnaissance and follow-up are needed to determine the changing conditions of the deadly shower. Planes equipped with radiation-survey instruments would monitor the area where the vast, unseen cloud had settled.

At the invitation of the Illinois Wing, I flew as an observer in a grimly realistic radiological training flight. Some hours earlier Chicago had been hit by a mock bomb attack that theoretically leveled the city.

The mission began deep in a bombproof, underground control center in a secret location. There officials had gathered for a briefing before a wall map of northern Illinois (page 662). They pointed out to me the presumed area of fallout, a big wedge-shaped

slice of terrain to the southwest of Chicago.

"Based on wind readings, this map shows approximately where fallout occurred a few hours ago," said Lt. Col. James J. Mitchell, Illinois Wing coordinator for Civil Defense. "It extends as far to the southwest as Peoria, 140 miles away, and covers an area of more than 7,000 square miles.

"The flyer's job is to determine the extent and intensity of contamination. If we know this, Civil Defense officials can then evacuate the area or order people to remain under shelter until it is safe to leave.

"You may wonder how much radiation our air crews could take. Each man would carry a dosimeter, resembling a fountain pen, which would tell him of his cumulative exposure in plenty of time to avoid danger."

Within an hour Mitchell and I climbed into a Piper Tri-Pacer and took off from Pal-Waukee Airport at Wheeling, 10 miles northwest of Chicago. We would simulate a patrol along the western fringe of the fallout area.

"This is really a communications test," Mitchell said. "I will radio position reports to the control center, omitting only the radiation readings we would give in an actual emergency. It should sound realistic."

And it did. We were flying south from Wheeling when the colonel suddenly banked to the left, flew the new heading for a few minutes, then veered sharply to the right in a 90° turn. His voice barked crisply into his microphone:

"Yellow Fox One, this is Blue Fox Five. We are directly above Bensenville at 1,000 feet. Time: One zero one seven. At edge of fallout. Our heading: One nine zero degrees. Acknowledge."

For the next hour we flew above the Illinois countryside. Whenever the colonel seized his microphone, it was all too easy to imagine that a deadly, invisible fall had drifted down on towns and farms.

### Each Volunteer Finds His Reward

Later, back at the airport, Jim Mitchell reminisced about his 14 years of service in Civil Air Patrol and the many volunteers he had known. I shall never forget one particular remark, for it brought into focus something I had sensed in hundreds of members met during the previous six weeks.

"We want nothing for our work," he said. "All we get is an inner satisfaction—but often it feels very, very good."